

Abstract

The invention relates to a method for determination of the stressing force in connecting components (1), such as screws or bolts, by means of broadband ultrasound excitation. A pulse generator is used for this purpose, which generates an ultrasound pulse (7) with a randomly distributed phase angle of used and/or resolvable frequency components, with a predetermined pulse width. The pulse width is matched to the intervals between ultrasound pulse echoes (8) in such a manner that there is no overlap between individual different reflections, and the maximum possible pulse duration is achieved. The received ultrasound pulse echo (8) is selected in time with respect to at least one reflection, and is subjected to a transformation process in such a manner that all of the frequency contributions are shifted in time or with respect to the phase for a defined time which is related to the ultrasound pulse (7).

(Figure 1)